PORTABLE STEREO TAPE RECORDER

X - V

OPERATOR'S MANUAL

CROSS-FIELD HEAD
PLUS
BRUSHLESS SERVOMOTOR

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IV SCHEMATIC

1. SPECIFICATIONS

TAPE SPEED : 4 Speeds ... 15/16, 1-7/8, 3-3/4 and 7-1/2 ips.

WOW AND FLUTTER : Less than 0.15% RMS at 7-1/2 ips.
Less than 0.17% RMS at 3-3/4 ips.
Less than 0.25% RMS at 1-7/8 ips.
Less than 0.35% RMS at 15/16 ips.

FREQUENCY RESPONSE :
40 to 20,000 cps±3 db at 7-1/2 ips.
40 to 17,000 cps±3 db at 3-3/4 ips.
30 to 11,000 cps±3 db at 1-7/8 ips.
30 to 5,500 cps±3 db at 15/16 ips.

SIGNAL TO NOISE RATIO :
Better than 50 db (DC)
Better than 45 db (AC)

INPUT LEVEL : MIC ..... more than 0.1 mV
LINE ..... more than 60 mV

POWER OUTPUT : 2 W maximum per each channel, total 4 W.

EQUALIZATION : Correct equalization for playback of tapes recorded to the NARTB curve.

RECORDING LEVEL INDICATOR :
VU meter × 2

RECORDING SYSTEM : 4-track stereo/monaural CROSS-FIELD bias system.

FAST FORWARD AND REWIND TIME :
90 seconds using 600 feet tape.

MAXIMUM RECORDING CAPACITY :
8 hours monaural recording at 15/16 ips (600 feet recording tape).
4 hours stereo recording at 15/16 ips.

MAXIMUM REEL SIZE : 7″ reel (with optional 7″ reel adaptor)

HEAD : Erase, recording/playback and bias heads.

MOTOR : Brushless servomotor

SPEAKER : 3″ speaker × 2

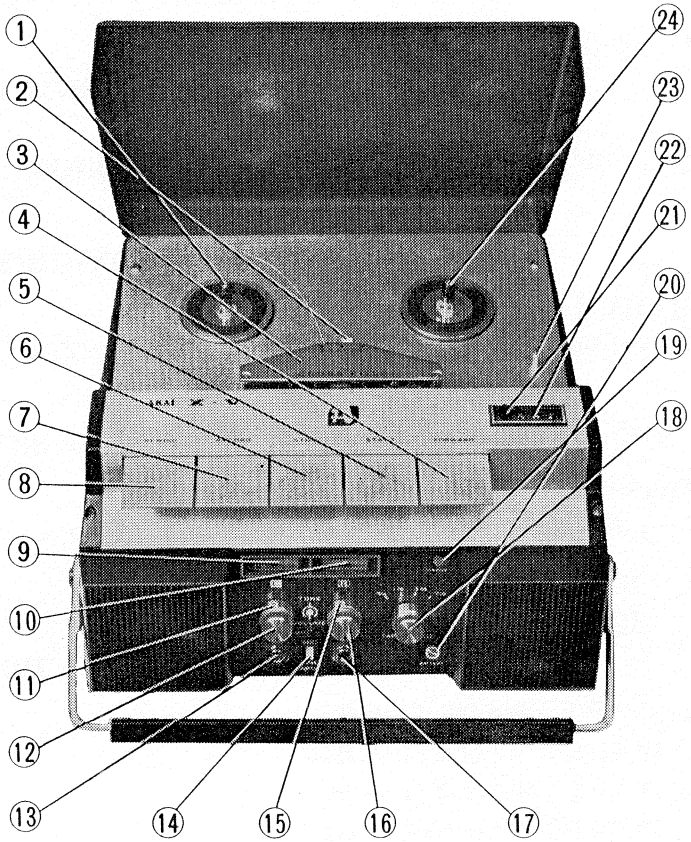
TRANSISTOR : Transistor × 30

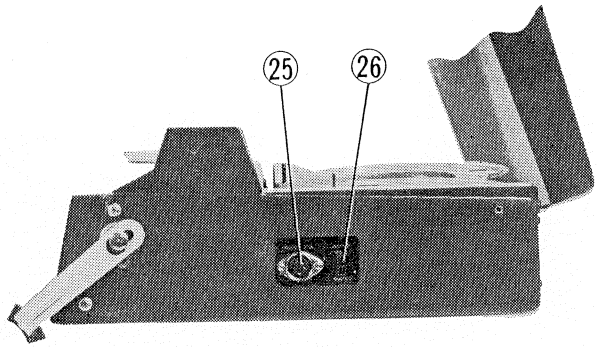
POWER SUPPLY : DC ..... (Rechargeable battery, 6 V 2.6 AH)
AC ..... 100 to 240 V

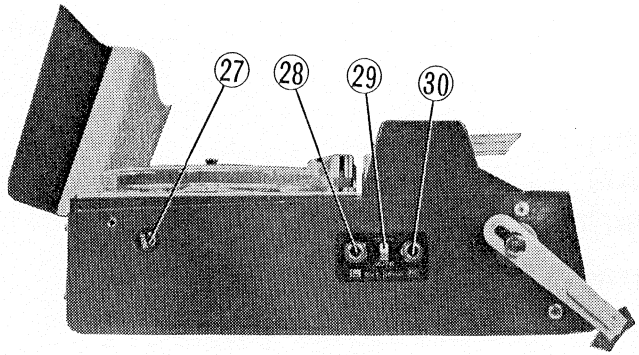
DIMENSIONS : 5-1/8″ (H) × 11″ (W) × 12″(D), case closed. (130 (H) × 280 (W) × 300 D mm).

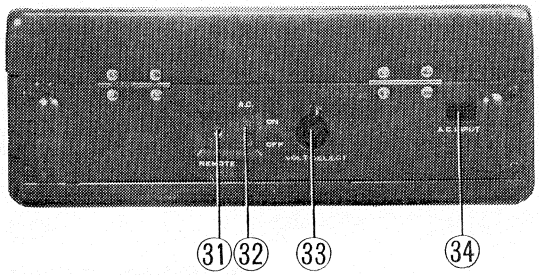
WEIGHT : 12. 1lbs (5.5kg)
(without battery)
1.3 lbs (0.6kg) (battery)

2. CONTROLS









① Supply Reel Shaft
② Track Selector
③ Head Cover
④ Fast Forward Button
⑤ Start Button
⑥ Stop Button
⑦ Record Button
⑧ Rewind Button
⑨ VU Meter (Left)
⑩ VU Meter (Right)
⑪ Tone Control (Left)
⑫ Amplifier Switch/Volume Control (Left)
⑬ Input Jack (Left)
⑭ Input Selector
⑮ Tone Control (Right)
⑯ Volume Control (Right)
⑰ Input Jack (Right)
⑱ Tape Speed Selector
⑲ Battery Charge Indicator
⑳ Battery Voltage Indicator Meter
㉑ Reset Button
㉒ Index Counter
㉓ Tape Holder
㉔ Take-up Reel Shaft
㉕ DIN Jack
㉖ A.G.C. Switch
㉗ Fuse
㉘ External Speaker Jack (Left)
㉙ Speaker Switch
㉚ External Speaker Jack (Right)
㉛ Remote Control Jack
㉜ AC Power Switch
㉝ Voltage Selector
㉞ AC Consent

3. CROSS-FIELD HEAD

In the usual recording device as the tape speed is decreased, the tonal quality becomes poorer and unsuitable for music recording. However, such long existing trouble (particularly poor high tone recording) has been eliminated with the appearance of the Cross-Field head, which permits sufficiently stable recording of music at the remarkably lower speed of half the former low transport of 1-7/8 inches per second.

What is superior about Cross-Field recording ? How does it differ from typical recording methods as far as construction is concerned ? On these, explanation is given below in sequence :

In the typical recording system, the signal current and the bias current are combined together and applied to the recording head. (Refer to Diagram 1.)

It is well known that the purpose of bias current is recording at high sensitivity with a signal applied on the tape, with no distortion and minimizing noise generation.

However, the bias current providing such an advantage also has an undesirable character. That is, the wide magnetic field of the bias current affects the recorded signal, resulting in weekening or even erasing the signal. This phenomenon is particularly noticeable at high frequencies.

In the Cross-Field system, the signal current is applied to the recording head while the bias current is applied to the bias head. These two heads are located in different positions, as determined interrelatively, so that the magnetic field of the bias will not affect the signal recorded on the tape, even when sufficient bias is applied. This allows the recorded signal to remain on the tape with high fidelity.

Diagram 1. Ordinary recording system

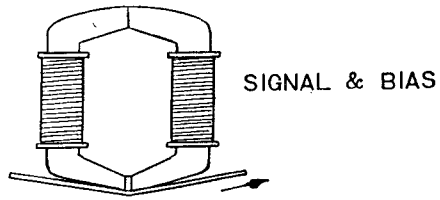
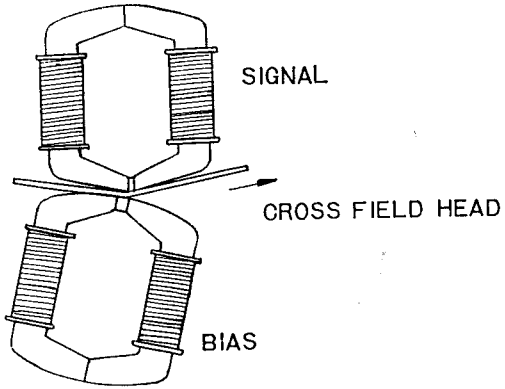
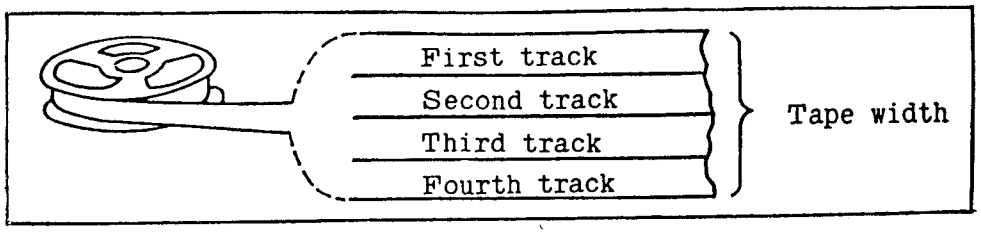


Diagram 2. Cross-field recording system

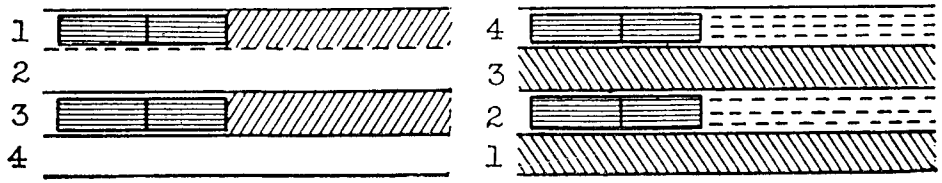


4. RECORDING/PLAYBACK FOR 4-TRACK



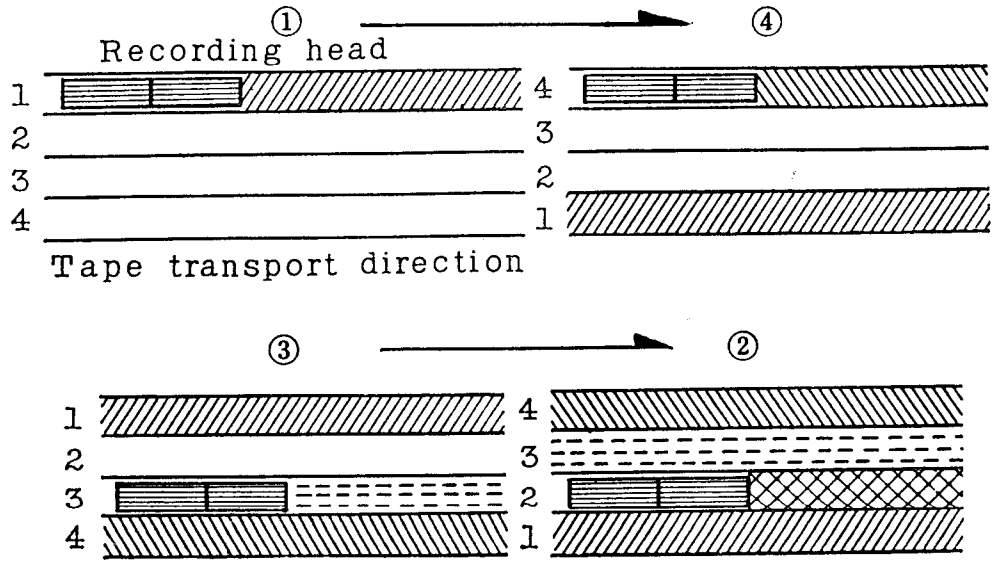
The Model X-Ⅴ employs a most advanced 4-track system that can be used for either stereo or monaural recording and playback.
The required track or tracks are selected by the TRACK SELECTOR ②

(A) 4-Track Stereo Recording/Playback



Stereophonic recording/playback requires the simultaneous use of two tracks. Set the TRACK SELECTOR ② to "ST". The first stereophonic recording/playback takes place on Tracks No. 1 and 3, and the second on Tracks No. 2 and 4 after the tape reels have been turned over.

(B) 4-Track Monaural Recording/Playback



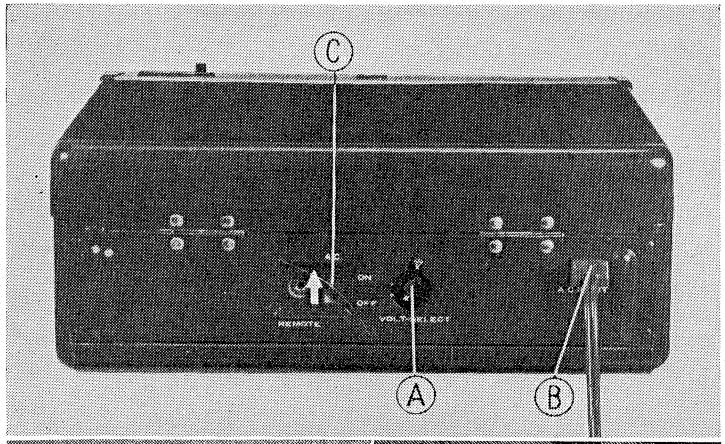
The monaural recording/playback track sequence should be 1—4—3—2.

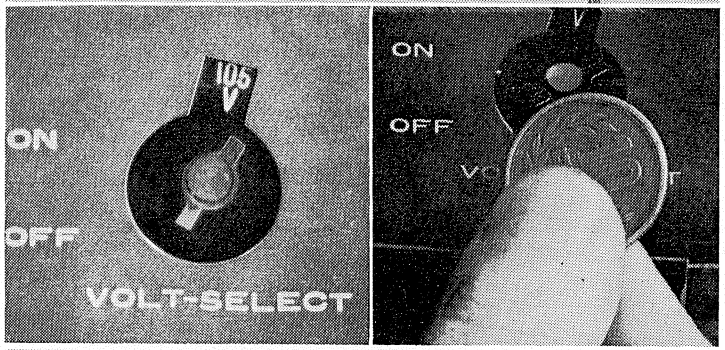
(a) Set the TRACK SELECTOR ② to "1-4".
The first monaural recording/playback takes place on Track No. 1, and the second on Track No. 4 after the tape reels have been turned over.

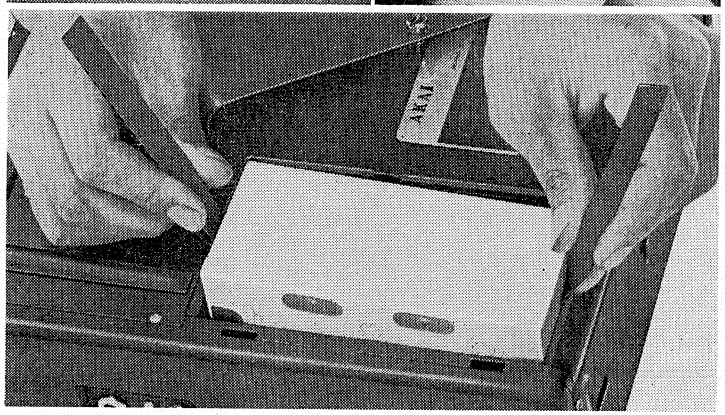
(b) Turn the tape reels over.

(c) Set the TRACK SELECTOR ② to "3-2".
The third monaural recording/playback takes place on Track No. 3, and the fourth on Track No. 2 after the tape reels have been turned over.

5. SELECTION OF TAPE SPEEDS







RECORDING TIME

4-TRACK STEREO				
TAPE LENGTH	TAPE SPEED			
	15/16	1-7/8	3-3/4	7-1/2
600ft	4 HRS	2	1	30 MIN
900ft	6	3	1.5	45″
1,200ft	8	4	2	1 HR
4-TRACK MONO				
600ft	8	4	2	1 HR
900ft	12	6	3	1.5
1,200ft	16	8	4	2

Rotate the TAPE SPEED SELECTOR ⑱ and set to any one of the four speeds listed below. **CHANGE SPEED ONLY WHILE IN "STOP".**

15/16 ips. This speed is provided for long time recording of jazz, speech, lecture etc.

1-7/8 ips. Same as above but used when high fidelity recording is required.

3-3/4 ips. Hi-Fi recoding of popular or classical music, etc.

7-1/2 ips. Recording music with maximum clarity. Playback of prerecorded tape etc.

Refer to the RECORDING TIME CHART.

6. OPERATION ON AC POWER SOURCE

The Model X-V can be operated either on AC power source or on the special AKAI's rechargeable battery. Before the operation on AC power source, set the recorder in accordance with the following instructions :

(A) Check the VOLTAGE SELECTOR ㉝.
The Model X-V is operatable anywhere in the world. With the built-in stepdown power transformer, the user can easily re-adjust the recorder to any one of the six stages of power voltage from 100 to 240 volts A.C. If another voltage is required, turn the VOLTAGE SELECTOR ㉝ so that desired voltage will appear on the panel.

(B) Insert the AC power cord into the AC CONSENT ㉞ and to AC power source.

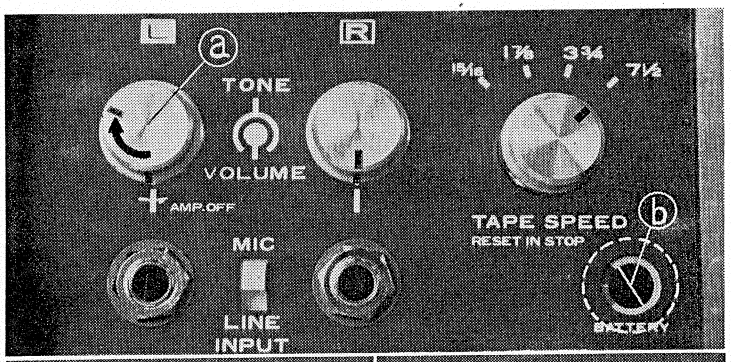
(C) Set the AC POWER SWITCH ㉜ to "ON".

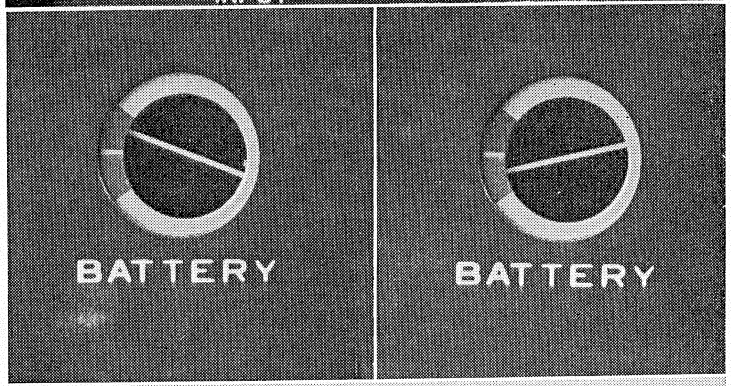
7. OPERATION ON BATTERY

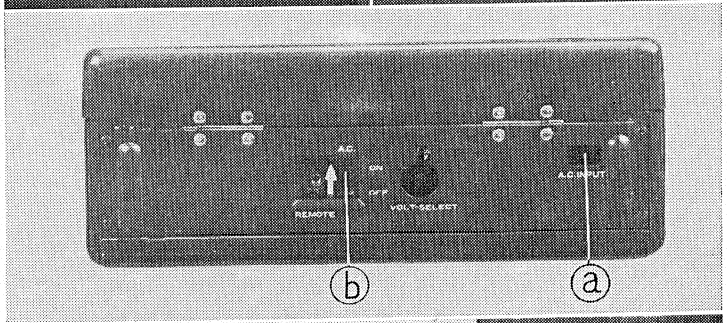
The Model X-V is operatable on the built-in rechargeable battery. The recorder may be used on battery not only for monaural or stereo recording but also for monaural or stereo playback. When the battery is fully charged, the X-V can be operated for more than 4 hours for

stereo recording and playback. To avoid an unexpected interruption of operation during recording or palyback, however, it is recommended that a spare battery be purchased and carried with the recorder if the recorder is to be operated continuously for a long period of time in the absence of AC mains. To replace the battery, take off the battery compartment cover as shown in Figure and remove the built-in battery by pulling the bands of both ends carefully. Insert a new one as before.

Because of its low rate of self-discharge, the battery may be stored for weeks or months. Before being stored, the battery must be fully charged, since the shelf life for a discharged battery is limited and damage may result.







A. Checking the battery

It is important that the voltage of the battery should be checked before operation in accordance with the following instuctions :

ⓐ Turn the Amplifier SWITCH ⑫ clockwise and set it to "ON".

ⓑ Check the condition of the battery by observing the BATTERY VOLTAGE INDICATOR METER ⑳.

If the battery is fully charged, the needle will move to near the center of the green zone.

If the pointer indicates merely between the red and green zone or stays in the red zone, the battery is low and should be recharged.

B. Charging the battery

The Model X-Ⅴ is equipped with a specially-designed charging unit which performs charging process antomatically and reliably.

ⓐ Insert the AC power cord into the AC CONSENT ㉞ and to AC power source.

ⓑ Set the AC POWER SWITCH ㉜ to "ON".

ⓒ The BATTERY CHARGE INDICATOR ⑲ lights and charging operation starts.

The BATTERY CHARGE INDICATOR ⑲ will automatically be turned off as soon as the battery is charged to approximately 90% of its total capacity. The battery is now ready for re-use, if so desired. To prolong the life of the battery, however, no attempt at disconnecting

the power source should be made for at least 2 hours after the charging lamp is turned off. This is because a greatly reduced current must be supplied continuously to the battery for post-charging. The entire function of the charging unit will automatically be stopped after the battery is charged to 100%.

Note : Its normal operation can be done simultaneously even while charging.

C. Battery Maintenance

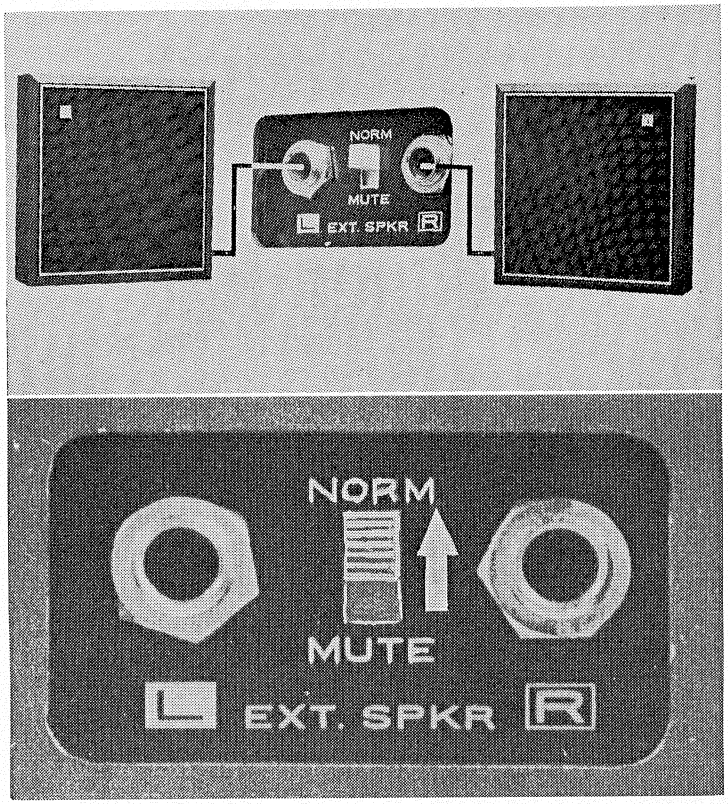
Following do's and don'ts should be followed in order to obtain maximum service from your rechargeable battery.

DON'TS

1. Run until completely discharged.
2. Store without being fully charged.
3. Discard battery where children may obtain it (battery contains acid).
4. Store or leave in extreme temperatures (hot or cold.)

DO'S

1. Recharge every four hours of operation.
2. If stored, recharge every five weeks
3. Use only factory replacements.



8. PLAYBACK USING EXTERNAL SPEAKERS

Though your X-V has two internal speakers, a pair of high fidelity external speakers will enable you to enjoy the best sound reproduction.

(A) Set the SPEAKER SWITCH ㉙ to "NORM".

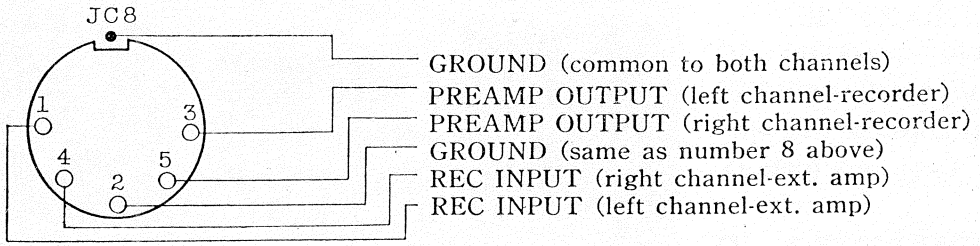
(B) Insert the plugs from the external speakers into the LEFT and RIGHT EXTERNAL SPEAKER JACKS (㉘ and ㉚).

The external speakers should be separated by at least seven feet.

9. DIN JACK

The DIN JACK ㉕ is provided at the right side of the Model X-Ⅴ for interconnecting the Model X-Ⅴ with an external stereo amplifier that has the same connection jack. This system will permit easy recording and playback of stereophonic programs through an external stereo amplifier as the complexity of connecting or disconnecting more than 4 separate plugs from the Model X-Ⅴ's panel side is not needed.
If your amplifier is not equipped with the DIN jack and the use of this one connection system is required, AKAI DR-110 is usable.

Front View of DIN JACK



10. OPERATIONAL PRECAUTIONS

IMPORTANT: READ THE FOLLOWING INSTRUCTONS CAREFULLY BEFORE OPERATING YOUR RECORDER:

A. THE USE OF NEW TAPE WILL RESULT IN THE BEST RECORDINGS.

B. THE SYMPTOMS LISTED BELOW DO NOT NECESSARILY INDICATE MALFUNCTION OF YOUR RECORDER.
IF YOUR MACHINE EXHIBITS ANY OF THESE SYMPTOMS, TAKE THE INDICATED ACTION.

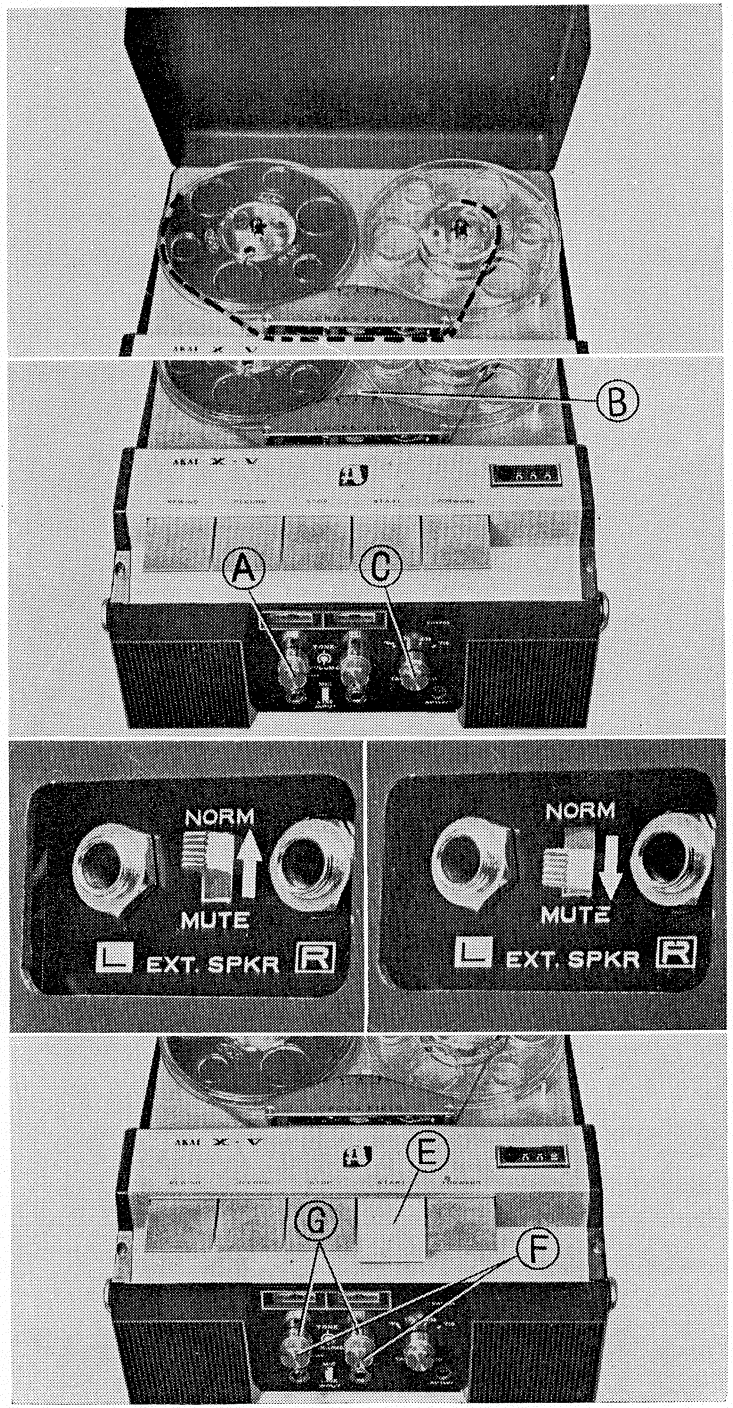
(a) Loss of sensitivity and tone quality may be due to:
Dusty or dirty heads—clean the heads.
Reversed tape—place dull side of the tape toward the heads.
Improper voltage or battery discharged—check voltage input and adjustment or recharged the battery.

(b) Irregularity of the tape transport may be due to:
Grime adhering to the heads—clean the heads.
Oil on the capstan—clean the capstan.
Dirty tape suface—use a clean tape.
Bent take-up reel—straighten the take-up reel.

(c) If your machine will not record and play, insure that the following are in correct position.
Record and start buttons.
Input plugs.
Input selector.

NOTE:

(a) Before operating your machine, be sure to clean the hads.
(b) If any problem arises, take your machine to the authorized AKAI agent in your area or to the Service Department of the AKAI Company in Tokyo, Japan.
(c) Do not attempt to rotate the Tape Speed Selector while any one of the push buttons is depressed.
(d) It is advisable to rotate the Amplifier Switch counterclockwise until a click sound is heard whenever the recorder is not in use. If the recorder is not be operated for a long period of time, the battery should be removed from the recorder after it is fully charged.
(e) A fuse post is provided on the left side of the recorder. If the fuse is blown, remove the cap of the fuse post and replace the fuse with a 250 mA unit.
(f) The time required for recharging the battery is approximately 7 hours if it is entirely discharged.



1. THREADING THE TAPE

Place your recording tape on the SUPPLY REEL SHAFT ① and the empty reel on the TAKE-UP REEL SHAFT ㉔

Thread the tape as illustrated by the dotted line. Care should be taken not to pass the tape outside of the TAPE HOLDER ㉓.

To keep the reels from falling down, lock the reels with the retainers provided on the top of the REEL SHAFTS.

2. STEREO PLAYBACK

(A) Set the Amplifier SWITCH ⑫ to "ON".
(B) Set the TRACK SELECTOR ② to "ST".
(C) Set the TAPE SPEED SELECTOR ⑱ to desired tape speed.
After the above operation, set a pre-recorded tape to the recorder.
(D) Set the SPEAKER SWITCH ㉙ to "NORM".
(E) Depress the START BUTTON ⑤ until it locks.
(F) Adjust the LEFT and RIGHT VOLUME CONTROLS (⑫ and ⑯) to desired volume.
(G) Also adjust the LEFT and RIGHT TONE CONTROLS (⑪ and ⑮) to suit.
Turnnig the TONE CONTROLS clockwise will increase treble response.
(H) At the end of recording on track No 1-3, depress the STOP BUTTON ⑥ and reverse both tape reels for the next playback on track No 2-4.

NOTE: When the recorder may be used on AC power source for recording or playback, set the AC Amplifier SWITCH ㉜ to "ON". In this case, the BATTERY CHARGE INDICATOR ⑲ lights and charging process is automatically performed. But, on battery, set it to "ON" or "OFF".

3. MONAURAL PLAYBACK

For monaural playback, substitute the following steps (B), (F), (G), and (H) of the stereo procedure. Follow the rest of the stereo procedure.

Only the left channel amplifier is used for monaural playback.

Playback on track No. 1 and 4

(B) Set the TRACK SELECTOR ② to "1-4".

(F) Adjust the LEFT VOLUME CONTROL ⑫ to desired volume.

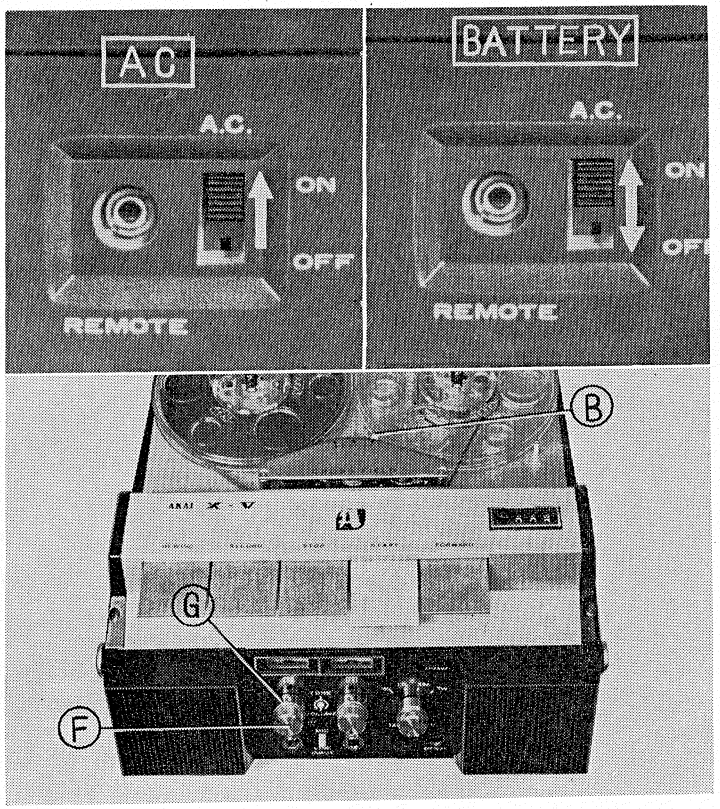
(G) Adjust the LEFT TONE CONTROL ⑪ to suit.

(H) Turn the tape reel over to playback on track No. 4 as applicable.

Playback on track No. 3 and 2

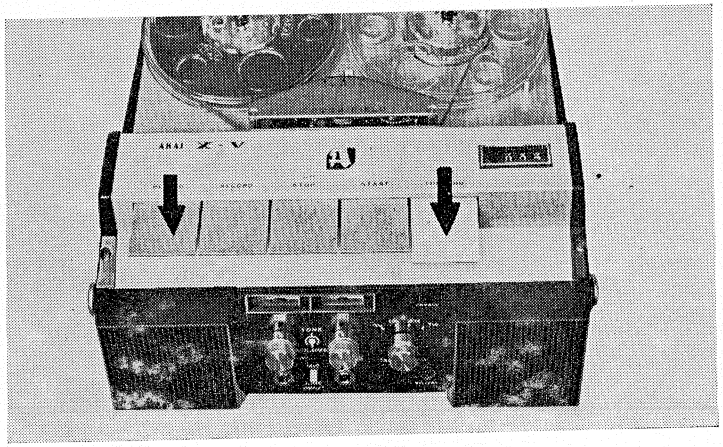
(B) Set the TRACK SELECTOR ② to "3-2".

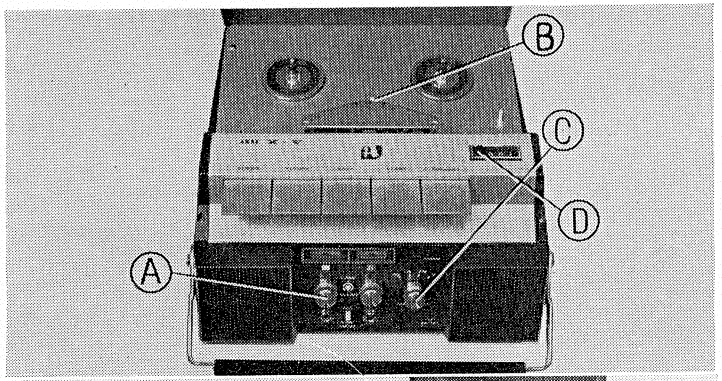
For the rest of operation, just follow the instruction for track No. 1 and 4 playback. Playback is made first on track No. 3, then on track No. 2 with both reels reversed.

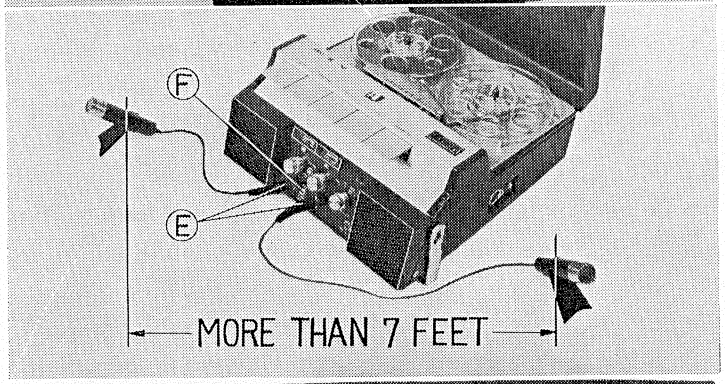


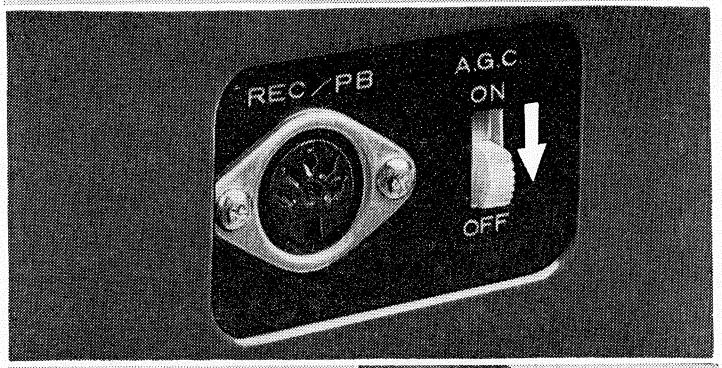
4. FAST FORWARD AND REWIND

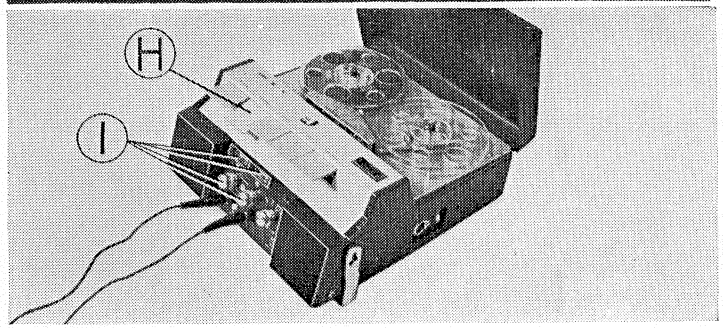
Fast forward or rewind operation is made by depressing the FAST FORWARD BUTTON ④ or REWIND BUTTON ⑧. Use the fast forward or rewind operation for a rapid selection of recorded materials on a given tape.











5. STEREO RECORDING (USING MICROPHONES)

A. Set the Amplifier SWITCH ⑫ to "ON".

B. Set the TRACK SELECTOR ② to "ST".

C. Select a desired tape speed by rotating the TAPE SPEED SELECTOR ⑱.

D. Push the RESET BUTTON ㉑ and set the INDEX COUNTER ㉒ to "000". This counter provides reference numbers for locating specific points of the recordings on the tape. After the above operation, set a recording tape to the recorder.

E. Insert the microphone plugs into the LEFT and RIGHT INPUT JACKS (⑬, ⑰). Maintain a distance of at least seven feet between the microphones.

F. Set the INPUT SELECTOR ⑭ to "MIC".

G. Set the A.G.C. SWITCH ㉖ to "OFF".

H. Depress the RECORD BUTTON ⑦ until it locks.

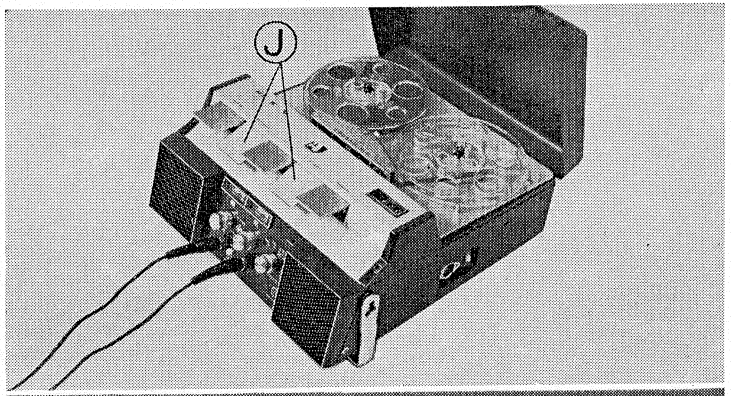
I. Microphone volume level may be adjusted and balanced by the LEFT and RIGHT VOLUME CONTROLS (⑫, ⑯). Normal recording should not exceed "black zone" on the VU METERS (⑨, ⑩).

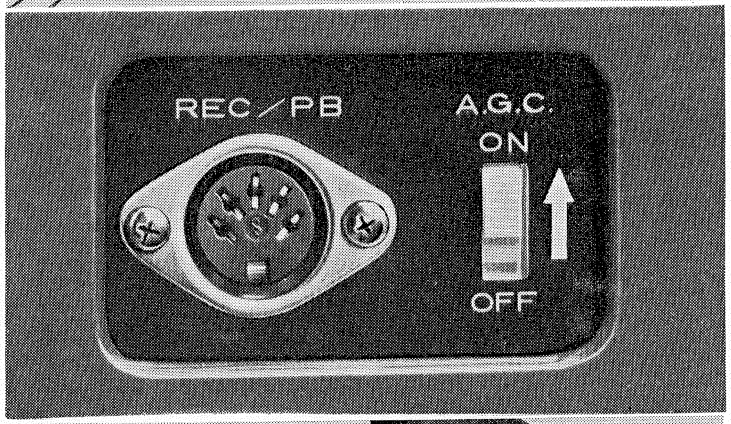
J. After an optimum recording level is determined, depress the RECORD BUTTON ⑦ and the START BUTTON ⑤ simultaneously to start stereo recording of tracks No. 1 and 3.

K. Stop the tape at the end of recording on tracks No. 1 and 3 by depressing the STOP BUTTON ⑥. Reverse both reels and continue recording on tracks No 2 and 4.

A.G.C. RECORDING SYSTEM

The Model X-Ⅴ has a speacial circuit for adjusting the recording level automatically. So, instead of setting the A.G.C. SWITCH ㉖ to "OFF", set this switch to "ON".
Then the recording level can automatically be controlled, so that there will be no need of adjusting VOLUME CONTROLS.
Thus you can do without the procedure of (H) and (I).
So, as soon as (G) operation, depress the RECORD BUTTON ⑦ and START BUTTON ⑤ simultaneously to start stereo recording.
NOTE : The TONE CONTROLS (⑪, ⑮) have no effect during recording.





6. MONAURAL RECORDING (USING A MICROPHONE)

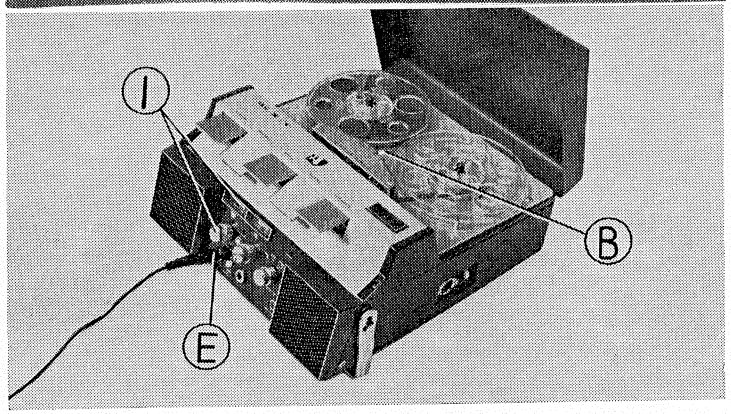
In monaural recording, only left channel amplifier is used. The right channel amplifier is not required for this operation. For monaural recording, substitute the following steps (B), (E), (I) and (K) of the stereo procedure. Follow the rest of the stereo procedure.

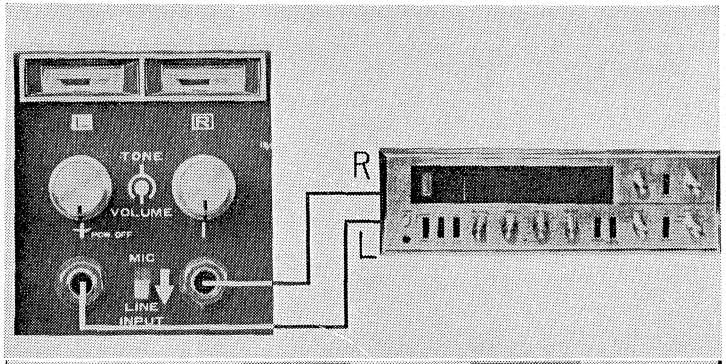
Recording on track No. 1 and 4

(B) Set the TRACK SELECTOR ② to "1-4".
(E) Insert the microphone plug into the LEFT INPUT JACK ⑬.
(I) Microphone volume level may be adjusted and balanced by the LEFT VOLUME CONTROL ⑫, observing the LEET VU METER ⑨.
(K) Turn the tape reel over to record on Track No. 4 as applicable.

Recording on track No. 3 and 2

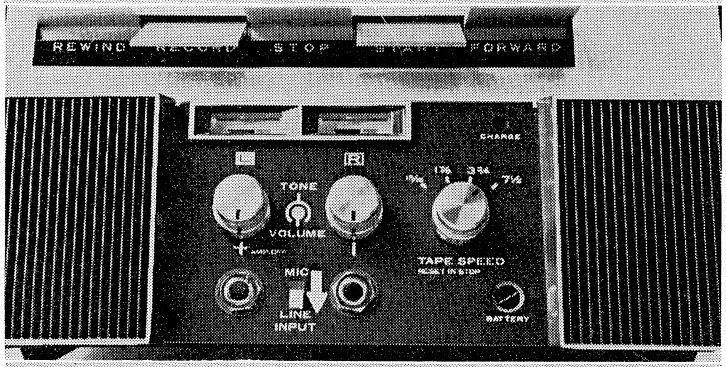
(B) Set the TRACK SELECTOR ② to "3-2".
For the rest of operation, just follow the instruction for track No. 1 and 4 recording.
Recording is made first on track No. 3, then on track No. 2 with both reels reversed.





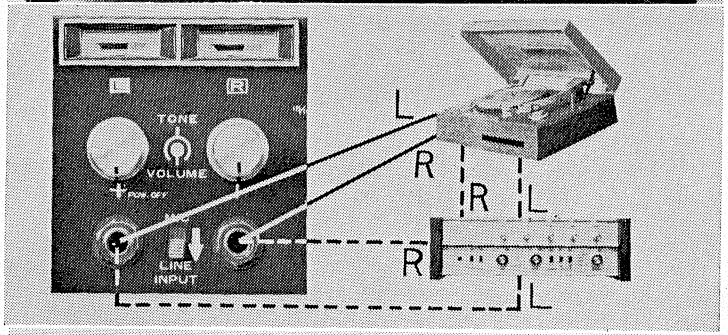
7. RECORDING FROM AN EXTERNAL AMPLIFIER

If an external amplifier or tuner-amplifier combination is used, connect the TAPE OUTPUT leads of the external amplifier to the INPUT JACKS (⑬ and ⑰) in step (E) of the recording procedure, and set the INPUT SELECTOR ⑭ to "LINE" in step (F) of the recording procedure.



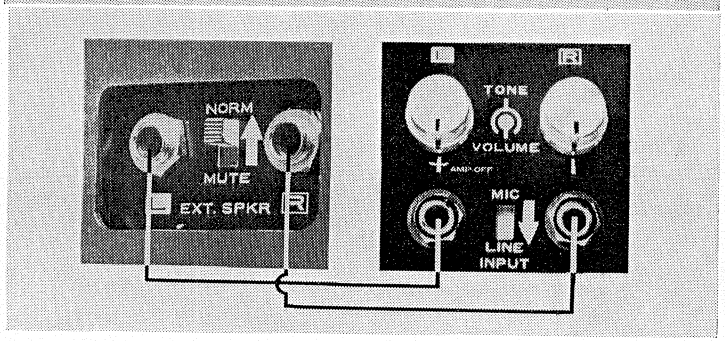
8. RECORDING FROM DISCS

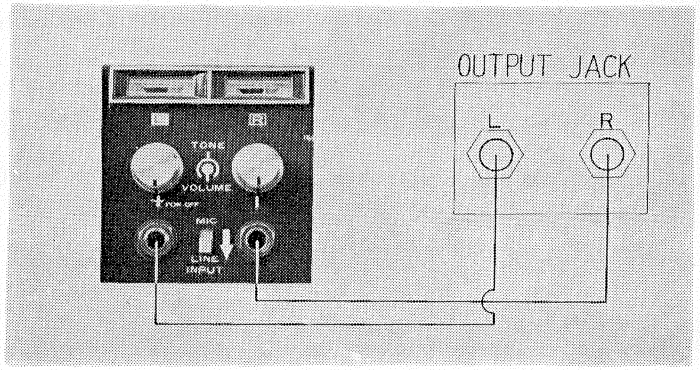
To record from a stereo or monaural disc, a "CRYSTAL PICK UP" or a "CERAMIC PICK UP" can be directly connected to the INPUT JACKS (⑬ and ⑰) in step (E) of the recording procedure. If a "MAGNETIC CARTRIDGE" is used, it must be connected to a separate preamplifier or external amplifier before being connected to the INPUT JACKS (⑬ and ⑰). And set the INPUT SELECTOR ⑭ to "LINE" in step (F) of the recording procedure.



9. RECORDING FROM ANOTHER TAPE RECORDER

If another X-Ⅴ is used, connect the EXTERNAL SPEAKER JACKS (㉘ and ㉚) of the playback machine to the INPUT JACKS (⑬ and ⑰) of the recording machine in step (E) of the recording procedure.



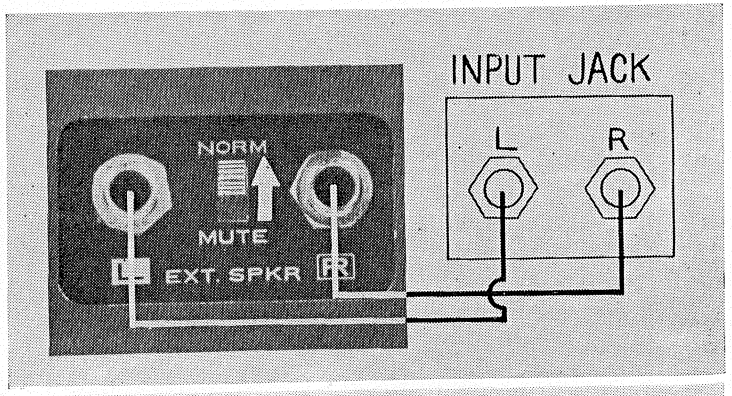


If another tape recorder is used as a playback machine, connect its LINE OUTPUT JACKS or EXTERNAL SPEAKER JACKS to the INPUT JACKS (⑬ and ⑰) of the X-Ⅴ in step (E) of the recording procedure. And set the INPUT SELECTOR ⑭ to "LINE" in step (F) of the recording procedure.

10. MONITORING

Monitoring is made by connecting the STEREO EARPHONE to the DIN JACK ㉕ or the CRYSTAL EARPHONES of high impedance type to the EXTERNAL SPEAKER JACKS (㉘, ㉚).

CAUTION : It is important that a crystal earphone should be one of high impedance type.



11. TAPE ERASING

Any materials previously recorded on tape will be erased automatically as a new recording is made on the same tape.

Thread the tape and then run it with the recorder set to normal recoding condition. There should be no plugs connected to the recorder's INPUT JACKS (⑬, ⑰) and VOLUME CONTROLS (⑫ and ⑯) should be kept to "0".

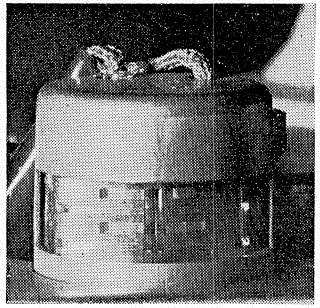
It is recommendable to use a BULK TAPE ERASER for quick and complete erasing.

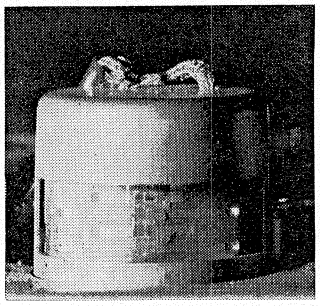
12. CLEANING HEAD

DUST DEPOSIT ON RECORD & ERASE HEAD ACCOUNTS FOR 90% OF TAPE RECORDING FAILURES !!

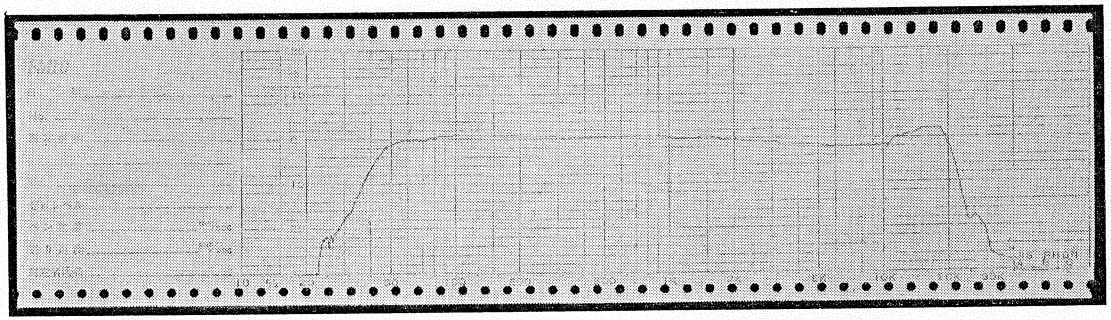
It is imperative for quality performance of a tape recorder to keep the heads neat and clean at times. Dust and magnetic particles from the tape tend to deposit on the heads after prolonged use of the tape recorder. This would result in poor head-to-tape contact, deteriorating the sound quality and sensitivity. What is worse, such dust would cause a fatal drop in recording, playback and erase quality levels.

EXAMPLE

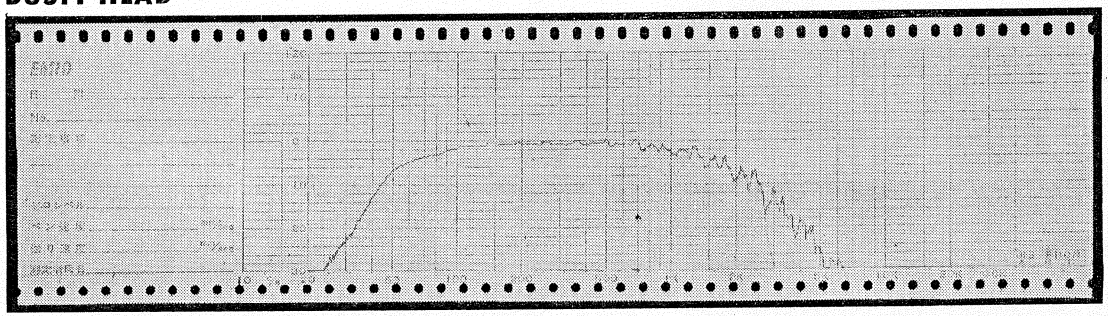




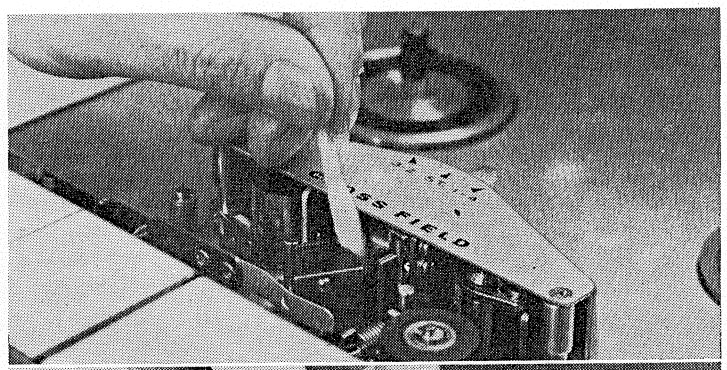
CLEAN HEAD **Frequency response curve**

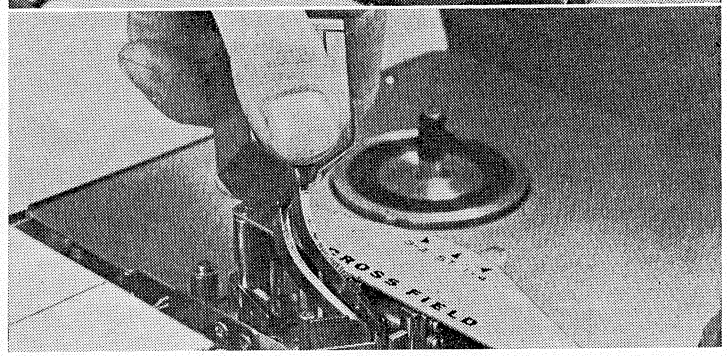


DUSTY HEAD



Make it a rule to clean the heads every time you use your tape recorder. AKAI's Head Cleaning Kit (Accessory No. HC-500) is recommended for removing the foreign matters deposited on the heads. If this kit is not available, use alcohol.



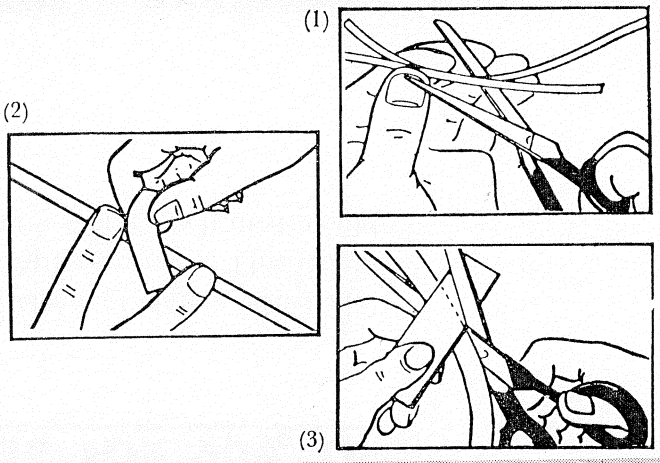


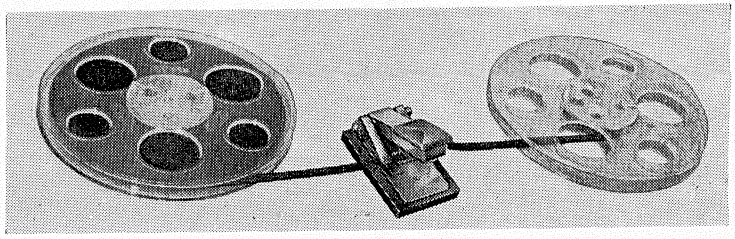
13. HEAD DEMAGNETIZATION

Normally the steel pole pieces which from a part of the recording/playback head become slightly magnetized. The effect of the slight head magnetization is to partially erase the tape. Mostly high frequencies suffer. Generally, slight magnetized heads can be detected by noticing loss of normal high frequency response which cannot be corrected through head alignment. Severe magnetization which may result if magnetized tools are used in the vicinity of the heads, will result in noise or considerable distortion in addition to the loss of high frequency response. Although the X-V already has a built-in Head Demagnetizing circuit, it is recommended that head demagnetization should be done periodically. Head demagnetization can be accomplished by touching the head lightly with the demagnetizer and making several small circular motions overall head surface areas as well as the head housing.

14. TAPE SPLICING AND EDITING

Cut the tape diagonally with an overlap so that the ends will be line up. (Cutting tape on a diagonal eliminates the detection of the splice in recording.)
Cover the aligned ends with SPLICING TAPE.
Press firmly, exerting pressure to secure the ends evenly.
Trim off the excess SPLICING TAPE. (Cut into the recording tape very slightly as illustrated by the dotted lines. This eliminates a possibility of a sticky splice).
Splicing of tape using scissors requires skillful work. However, our specially designed Portable Splicer can be done smoothly.





1. ACCESSORIES OPTIONAL

Carrying Case (for X-V only) ..... No. XCC-11
Remote Control (for X-V only) ..... No. XFS-12
Stereo Earphone (for X-V only) ..... No. XSE-13
Telephone Pick-up (for X-V only) ..... No. XTP-14
7″ Reel Adaptor (for X-V only) ..... No. XEA-15

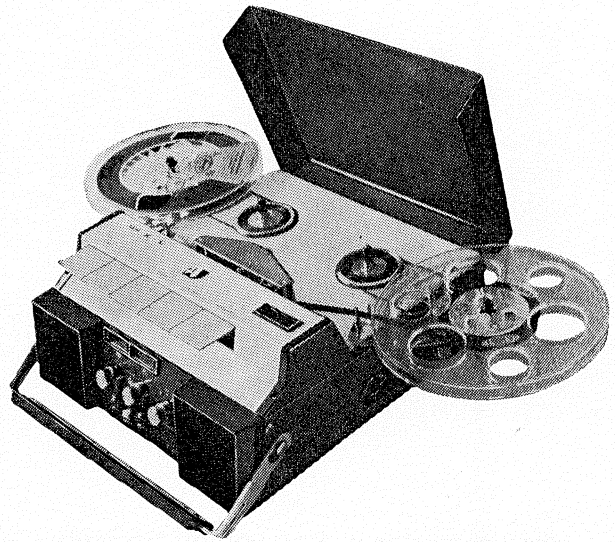
Magnetic Recording Tape & Reel

Recording Tape
- AT-5S (600 feet)
- AT-7S (1,200 feet)
- AT-5L (900 feet)
- AT-7L (1,800 feet)

Connecting Cord
- D-100 (DIN Plug : DIN Plug Cord)
- DR-110 (DIN Plug : 4 Separate RCA Plugs Cord)
- DM-120 (DIN Plug : 4 Separate Mike Plugs Cord)
- RM-130 (4 Separate RCA Plugs : 4 Separate Mike Plugs Cord)

Tape Splicer ..... No. AS-3
Head Demagnetizer ..... No. AH-6
Tape Eraser ..... No. ATE-7
Head Cleaner ..... No. HC-500

Reel
- ATR-5 (for 5″)
- ATR-7 (for 7″)



2. ACCESSORIES STANDARD

5″ Demonstration Tape 1
5″ Empty Reel 1
Dynamic Microphone with Stand 2

Battery 1
AC Cord 1
Operator's Manual 1

3. STEREO SPEAKER SYSTEM

Model SW-50 is a compact stereophonic speaker system which are housed in beautiful oil-finished walnut cabinets. As this pair of SW-50 are also packed in a vinyl bag, it is very easy to carry them along for use with Model X-V and enjoy the undeniable true high-fidelity sound anywhere you want ; outdoors, as well as indoors.

SPECIFICATIONS

Speaker :	5″ high compliance speaker
Impedance :	8 ohms
Max. power input :	10 W
Frequency response :	70～15,000 cps.
Dimensions :	14-1/8″H × 13-1/2″W × 4-1/4″D
Weight :	13.2 lbs (set)